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LECTURES.

CLINICAL LECTURES ON THE PHYSIOLOGICAL PATHOLOGY OF SYPHILIS.¹

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III. PERIOD OF GENERAL INFECTION AND SUBSEQUENT LOCALIZED CELL ACCUMULATION.

GENTLEMEN, — In the previous lectures it has been claimed that the one great characteristic, in point of fact the sole evidence we have, of syphilitic infection, in its early stages, consists in an increased proliferation and localized accumulation of germinal or white blood cells. Thus it was shown that the induration of the initial lesion was produced, and also, by consequent interference with the nutrition of the part, the characteristic forms of the infecting chancre or initial lesion of syphilis resulted. Entire absence of any sign of syphilis at any other point, and a gradual advance of the abnormal cell accumulation through the lymph paths connecting with the point of inoculation, appeared to warrant the conclusion that the disease was progressing through the lymph channels alone. Its course was clearly recognized from its initiation, at the point of inoculation, to the entrance into and enlargement of the lymphatic glands in connection with it.

The so-called *period of incubation*, or interval between the date of inoculation and the appearance of the characteristic induration, was readily accounted for by the gradual accumulation of cells at the point of inoculation, antecedent to effecting an entrance into a lymphatic vessel. The period of rest which was said to occur between the appearance of the induration and any constitutional manifestation of syphilis was explained by referring it to the slow progress of the infected cells through the labyrinthine channels of the lymph glands. Bäumler, latest of the German authorities on syphilis, says of this matter, "Several weeks always elapse from the first appearance of the local affection be-

¹ Reported by P. Brynberg Porter, M. D.

fore the point is reached where general symptoms break out; and this circumstance speaks also in favor of the theory that the poison advances *by way of the lymphatics*, and the slowness of this advance finds its explanation in the hindrance offered to the passage of the virus by the lymphatic glands."¹ The interval now accepted by all authorities as occurring between the date of inoculation and the appearance of the characteristic initial lesion was fixed at an average of twenty-one days; the interval between the occurrence of the induration and the earliest evidences of constitutional syphilis at an average of forty days. Having shown, as I believed, that neither of these intervals was in any sense an *incubation*, but the consequence of interference with the progress of the diseased cells through natural anatomical and physiological barriers, I discarded the term incubation, and instead of the conventional title of *primary syphilis*, usually applied to the period which intervenes between inoculation and recognized constitutional infection, I designated it *the initiatory period of syphilis*.

This initiatory period of syphilis may be said to terminate when the diseased cells or germs have passed through the lymph vessels and glands intervening between the point of inoculation and the *receptaculum chyli*. On entering this reservoir these "carriers of contagium" must of necessity be swept along in the lymph current, through the subclavian veins, into the general blood current, and with it find their way to the remotest ramifications of the blood vascular system. "These cells," says Beisiadecki, "formed in the lymphatic system, can easily enter the lymph current and the blood, and become the carriers of the contagium." Now, in the natural history of syphilis, the earliest manifestation of constitutional infection or secondary syphilis, as it is usually termed, is, according to observation and authority, a peculiar and general eruption of rose-colored blotches on the skin at about the sixth week after the occurrence of the initial lesion, and known as the "syphilitic roseola." Although not always recognized, it is conceded by our best observers that it is always present in greater or less degree, in some instances extremely transient, lasting perhaps only a few hours, while in other cases it may last for many weeks. Its appearance in point of time will be found to coincide with the alleged period of entrance of the vitiated cells or syphilitic disease germs into the general circulation.

I shall present for your observation and study to-day several cases of this earliest and most common of all the manifestations of syphilis. This young man, for instance (whom you may indicate in your note-books as Case V.), is by occupation a waiter, age twenty-four years. He states that he has often suffered from sores on his penis, following connection, but that he had always been able to cure them by applications of caustic in a short time. About three months ago he had a con-

¹ Ziemssen's *Encyclopædia*, vol. iii., Am. ed., page 124, 1775.

nection, followed in three or four days by several little sores on his penis, which he treated in the usual way, and with his usual success, and to all appearance continued free from trouble until about a month after, when, without other connection, his penis again became sore. Notwithstanding the applications of caustic, it not only refused to heal, but gradually grew so much worse that he has applied at our clinic to-day for relief. Some time since it was promised that in each case presenting, where the initial lesion of syphilis was found to vary in any characteristic way from those already described, it would be made the subject of especial consideration. In the present instance we find occasion to raise a question as to the character of the lesion on the penis. It is certain that we have a condition here markedly different from any of the preceding cases of syphilitic initial lesion. Thus, instead of an unbroken papule, a simple erosion, an insensitive, indurated mass, free from any signs of suppurative action, we find at base of the glans, superiorly, an angry-looking sore, about the size of a dime. The inflammation which surrounds it is also seen in the congested and swollen preputial tissues. The excavation, while somewhat superficial, presents an abrupt and irregular border and a yellowish, sloughy-looking floor, secreting pus freely. Contiguous to it, in the fossæ glandis, you may observe several little ulcers, and also two or three small, unbroken pustules. The gross appearance is such as we might expect to find in an inflamed venereal ulcer, entirely local in its nature, and usually termed *chancroid*. Now the chancroid, as I have previously told you, is the result of a process of destruction, while the initial lesion of syphilis is the result of excessive growth of germinal or tissue-building material. Whenever the initial lesion of syphilis occurs as an open lesion it is the result, not of a true ulceration, but of a *necrobiosis*, a mechanical interference with the processes of nutrition, and its characteristic secretion is epithelial and serous, and not purulent. On the contrary, the secretion of the chancroid is *always* purulent. I have also told you that the base of the *chancroid* was supple, quite free from the induration characteristic of the initial lesion of syphilis. In this case we find the salient features of the chancroid, and yet by farther examination we ascertain that it is situated upon a *distinctly indurated base*, although not so much so as in that presented at our last lecture as typical of the chancre or the initial lesion of syphilis.

It therefore would appear that the induration, being thus apparently associated with the chancroid, was not especially significant. But in this connection you will also recall a fact, repeatedly referred to in our examinations of chancroid, that a very distinct induration may be produced by applications of caustic, such as have been made use of in this case, as well as by other modes of irritation. This, as you will remember, was alluded to as a temporary condition, but one which, for

the time, might prove a source of embarrassment in arriving at a diagnosis, and that we might be obliged to wait for the result of treatment, in order to come to a correct decision, unless other evidences or manifestations of disease were present. In looking for such, our attention is arrested by the presence of the small ulcers and pustules associated with the principal point of disease. The initial lesion of syphilis is known to be usually solitary. This patient distinctly states that he has had no connection within the last three months, and that the small ulcers have appeared within the last week and the pustules within the last twenty-four hours.

Now, it is an important fact in the natural history of the chancre, or initial lesion of syphilis, that given a characteristic, indurated, non-suppurating, open initial lesion, a typical infecting chancre, with smooth, sloping edge and granular floor, secreting a serous fluid of a perfectly transparent and unirritating quality, and subject it to violent or prolonged irritation by caustics, or friction of clothes, or otherwise, sufficiently to produce inflammation, a destructive action will be set up in it, which, engrafting upon it a true ulcerative process, will entirely alter its appearance and the character of its secretion, changing its physical aspect to that of the chancroid, and its bland secretion to a purulent fluid of distinctly contagious and destructive character.

With the knowledge of this fact we may now see how this lesion, originally solitary, may have become multiple by recent auto-inoculation of its secretion upon the mucous surface in its vicinity, and that while thus possessing in a general way the characteristic features of chancroid, the lesion before us may yet prove to be an initial lesion of syphilis, one of the variety which we term *the inflamed chancre*.

I may here, in passing, call your attention to the fact, now well substantiated, that all pus, the product of inflammatory action, acquires to a greater or less degree the contagious and necrotic property, and hence that this peculiarity is not confined to the inflammation of chancre. This point will be more fully considered as we come to treat upon the subject of chancroid.

We must now, however, in this case, seek for further evidences as to the true character of the sore before coming to a final decision; for if it be the initial lesion of syphilis, now at the end of the third month from the date of inoculation, further evidences should not be wanting.

We will first endeavor to detect the lymphatic induration, the knotted cord, which on a previous occasion was found extending from the initial lesion to and into the region of the inguinal glands. The integument of the penis is here so swollen, by the intercurrent inflammatory action, that a satisfactory examination on this point is impracticable; but we do find distinct enlargement of the inguinal glands, free from tenderness, hard to the touch, and movable under the integument.

The patient states that he has occasionally felt a little stiffness in this region after much walking, but has experienced no sensation of pain. Recent painless enlargement of the lymphatic glands, taken in connection with the history and condition of this patient, render it almost certain that his trouble is syphilitic; and yet his general health, he claims, is excellent, and his appearance fails to indicate any constitutional disturbance. His condition is much like that of Case III. at our last clinique where, you will remember, casual reference was made to some reddish spots upon the body of the patient. I did not mention their significance at that time, but it was the eruption which then made the diagnosis of syphilis absolutely certain. On removal of this patient's clothes, you may now observe a similar eruption, — dull, rose-colored spots, thickly scattered over his back, and to a less degree and somewhat fainter on his breast and arms. I find, also, a few sprinkled over his palms. This exanthem, associated with his history, with the sore on his penis, and his enlarged and painless inguinal glands, enables us to state confidently that the local lesion in this patient is the *inflamed chancre*, — the initial lesion of syphilis modified in appearance and local character by superimposed inflammatory action, — and that this eruption is the roseola of syphilis. In its general appearance this exanthem is, as you may see, not unlike a slight eruption of measles. Pressure with the finger in the syphilitic roseola causes the color to disappear completely when the eruption is recent, but when it has existed for some weeks a brownish or copper-colored stain is left. In this case it leaves a slight coppery stain, which is an evidence, although the patient has been entirely unconscious of the fact, that it is a syphilitic roseola, and has been present for some time. The longer the eruption remains the more likely it is to leave its characteristic trace, namely, a coppery stain, unaffected by pressure. The color of this stain here, as well as in other syphilitic eruptions, is usually considered valuable as a diagnostic mark of syphilis. With this exception, however, it is not materially different from an idiopathic roseola. Like the latter, it appears suddenly; often during or following any exercise which gives a violent impetus to the circulation of the blood, such as rowing, dancing, or running.

Pain or other premonitory symptom is not necessarily associated with it. Sometimes it is slight, consisting only of a few pale spots, while again it is profuse and highly colored, and occasionally slightly elevated. But it never develops into any other form of lesion. Beyond a reddish blotch, it is never more than a copper-colored stain, and even this stain, the only really salient point of difference between simple roseola and that which is thus seen to be associated with the advent of constitutional syphilis, will be shown to result from simple causes. It is true that this eruption is popularly accepted as syphilitic, in the sense

that it is caused by the local presence of syphilitic material, and is to be gotten rid of through the same means by which the specific cell accumulations (forming papules in the skin and mucous membranes) at a later stage of the disease are eliminated. I believe, however, that this can be shown to be an error, and that this roseola, like all the other roseolas, is the result of a purely functional disturbance. Bäumler says of it, "In every syphilitic efflorescence there is a circumscribed dilatation of blood-vessels, together with a certain amount of exudation of white blood cells into the sheaths of the vessels merely, and into the surrounding tissue. The greater the degree of stasis the more abundant will the exudation of red corpuscles be; and it is the alteration of the coloring matter in these red globules which imparts to the color of the syphilides, after they have remained for some time, their yellowish or brownish shades. These shades are more distinct in proportion as the congestion of the vessels thereby occasioned recedes, and they are more pronounced, the longer the stasis has continued. In the same way, any efflorescence, or its immediate vicinity, or scars following ulcers on the lower extremities, *not due to syphilis*, may assume this color. Long-continued dilatation of capillaries and stasis of the blood are all that is necessary to produce pigmentation."

(To be concluded.)

LARGE CYSTIC TUMOR OF KIDNEY.

BY A. M. TUPPER, M. D., ROCKPORT.

M. T., male twin, aged nineteen months. Shortly after birth three nævi appeared, two in the scalp and one about a quarter of an inch from the external angle of the right eye. As they were growing fast, they were first cauterized with nitric acid, and afterwards the one at the angle of the eye, the largest, was ligatured. These operations being unsuccessful, the child was sent to the Massachusetts General Hospital for the purpose of having the galvano-cautery applied, which was done, and the disease cured. Last September the mother, being away with the child on a visit, discovered a tumor, about the size of a hen's egg, midway between the ribs and the crest of the ilium, on the right side. A physician who was called in for some other ailment examined it, made no positive diagnosis, but, thinking it might be a fecal accumulation, treated it as such with no effect. On the way home the child was taken to the hospital for the purpose of exhibiting the effect of the cautery, and partly on account of the tumor. She was told that it might be a cold abscess, and if it grew much to return for further examination.

I first saw it the last of October. The abdomen was then considerably enlarged, the enlargement being greatest on the right side. The

growth steadily increased, and about the middle of November I introduced the needle of a hypodermic syringe into the most prominent part of the swelling, and drew off about a drachm of clear serum. Shortly after this the patient was again taken to the hospital, where the tumor was aspirated; and as only a very small quantity of fluid could be withdrawn, it was thought to be a collection of cysts, containing nothing but serum, but its origin was not determined. The microscope threw no light on the subject.

The disease steadily advanced up to the time of death, February 24th. The child's health did not suffer much until about six weeks before its decease, which was hastened by a mild attack of bronchitis. The parents did not object to an autopsy, which was made by myself, in presence of Drs. Manning and Sanborn, of this town, and the father, the details of which are given below.

Autopsy, twenty-two hours after death. As the body lay on the table it presented a remarkable appearance, the enormously enlarged abdomen contrasting strongly with the emaciated limbs. Measurement round largest part of abdomen, twenty-six inches. An incision from sternum to pubes came at once upon the tumor, which filled the whole abdomen and part of the thorax. Part of the large, and a few coils of the small, intestine were all that could be seen of the abdominal organs; they were lying in the left hypochondrium. Tumor firmly adherent throughout to the peritonæum and large and small intestines. After considerable difficulty in separating the adhesions, it was lifted out and found to be an enormous collection of cysts enveloped in a firm fibrous capsule, originating in the right kidney, being part and parcel of the kidney, blending with the cortical substance, so that it was difficult to define the line between the cysts and the cortical substance; in fact, the organ was converted into an immense number of cysts of all sizes, and weighed *seven and three quarter pounds*. I did not take the dimensions of the tumor, but it was certainly twice as large as an adult head. The walls of the cysts were of a dense fibrous substance, creaking under the knife almost like cartilage. It contained nothing but a clear, watery serum. No microscopic examination was made, and, I regret to say, no chemical analysis of the contents. The left kidney was healthy. Bladder full. All the other abdominal organs healthy. The lungs were so much compressed that it seemed almost incredible that the child lived as long as it did.

I can find no mention in any work that I have access to of anything of the same nature that approaches the size and weight of this tumor, and therefore present it to your many readers as a case of interest, and worthy of being put on record.

ANATOMICAL EVIDENCES OF ABORTION.¹

BY MEDICAL EXAMINER C. C. TOWER, M. D.

At the autopsy of a woman supposed to have come to her death in consequence of a recent abortion, at a period from the third to the sixth month of pregnancy, an examination of the corpus luteum, if discovered, should be made in reference to the following anatomical and diagnostic signs: (1) location; (2) size; (3) texture; (4) glandular wall; (5) clot; (6) enucleation.

(1.) The location in the ovary should be superficial, as indicated by a prominence on the surface of that organ, and by the existence of a minute opening or cicatrix which marks the point of rupture of the Graafian follicle whence the corpus luteum originated. If the structure is deep seated, and unconnected with a depression or scar on the ovarian surface, it is not to be considered as an evidence of pregnancy, but should be regarded as the result of gelatinous, fibrinous, or saccular degeneration of an unruptured Graafian follicle, — a so-called "false corpus luteum."

(2.) Unless defective in development, on account of local or general deficiency of organization or vigor, or on account of retrograde changes which took place between the events of abortion and death, we should expect the corpus luteum at this middle period of pregnancy to measure in its length from ten to twenty-five millimetres, in its weight from five hundred to fifteen hundred milligrammes, and in its volume from one half to one cubic centimetre. Normally retrograde corpora lutea of menstruation usually fall short of these measurements.

(3.) The texture of the corpus luteum of pregnancy is usually quite firm, sometimes almost cartilaginous in consistency, especially the clot, while that of corpora lutea unconnected with pregnancy is soft or only moderately firm, and, after the first month, even friable.

(4.) The wall of the corpus luteum when followed by impregnation is of a more distinctly bright orange-yellow color, thicker, and more deeply convoluted than when conception has not taken place. The yellow color which then obtains is often described as rosy yellow, light yellow, yellowish-white, an indefinite yellow hue, and the convolutions are less deep and thick according as the occurrence of menstruation has been recent.

(5.) The clot of the corpus luteum is one of its most distinctive features. During its development in pregnancy it becomes more and more discolored and firm in texture, and towards the end of the term puckered and scar-like. In about one third of the cases it is found to contain a central cavity devoid of lining membrane. This characteristic may be regarded as almost certainly diagnostic of recent pregnancy. In

¹ Concluded from page 369.

the non-pregnant state, however, the color, which during the first month is red, changes to greenish, brownish, or whitish, only when the retrograde process has become well established, — when its size has begun to diminish and its consistence to soften.

(6.) Enucleation is one of the properties which pertain to corpora lutea. Not only in the well-developed structure can the clot be removed from its enveloping wall, but also the whole body can be readily separated from the stroma of the ovary by a sort of natural cleavage. This characteristic of the corpus luteum belongs alike to that of pregnancy and that of menstruation during the developmental periods. This difference, however, obtains: that when the latter has undergone an early stage of retrocession, or become obsolete, its separation of parts or its entire separation from the ovary is difficult, if not impossible, without rupture; whereas the corpus luteum of pregnancy can be at all times enucleated from its bed in the ovary, and, as a rule, the clot can be removed from its capsular integument.

In regard to the medico-legal value of a well-marked corpus luteum of pregnancy as an evidence of abortion, it seems to me there can be no doubt. As much weight should be attached to its existence as to that of any other single sign, unless, perhaps, the mark of the utero-placental union. It sometimes, however, happens, as in the case already referred to, of Dr. Chenoweth, that on account of instrumental violence at the hands of an abortionist, followed by inflammatory softening of the uterine wall at the seat of injury, complete obliteration of the placental site occurs, thus destroying any evidence to be derived from this source. In this case when the uterus "was first held up there appeared to be three ragged rents on the front part close together, looking like a torn carpet, with the shreds reaching across the rents." "After having been slightly touched with a sponge the rents in the uterus disappeared, leaving a large excavation." "I do not doubt," he says, "that the placenta occupied the site of the rents." In other instances, as when due to the lapse of a considerable interval of time between the abortion and death, all traces of the seat of this organ have been removed by absorption or exfoliation.

Although some writers on medical jurisprudence are inclined to attach small importance to the existence of a corpus luteum as a proof of recent abortion, yet I think I may say the latest and best informed on this subject generally regard it as of very considerable value. Evidently the weight given to this sign depends very much upon the care with which the examining physician conducts his examination, and upon his ability to interpret correctly the appearances which he discovers. There is reason to believe that most of the reported cases of so-called "true corpora lutea" in virgins, and their absence in women after delivery, are attributable either to a want of discrimination between the

yellow body when dependent upon ovulation alone and that dependent upon ovulation followed by conception, or to an inability to recognize that structure when imperfectly developed from any cause, or when deteriorated by changes which have taken place in it after abortion occurred. Attention to the points detailed above, it is believed, will seldom mislead the careful observer. It is to be hoped that medical examiners will give this subject careful attention, and report their results to the society, in order that a more thorough knowledge of all the important phases and appearances of this organism may be more thoroughly understood.

The following conclusions arrived at by Ogston tally well with what I have derived from other sources:—

(1.) "That a small, imperfectly developed corpus luteum affords no proof of impregnation having taken place.

(2.) "That in proportion as the corpus luteum approaches its full size and development, so does the proof of impregnation followed by a somewhat advanced pregnancy approach to anything like certainty.

(3.) "That the absence of a corpus luteum from the ovary would not be sufficient to negative the possibility at least of impregnation having taken place.

(4.) "That the differences in which the distinction between spurious and true corpora lutea is based do not refer to separate bodies so much as to different states of the same body."

The following case, copied from Professor Dalton's report, already borrowed from, illustrates so well many points which have been described that I make no apology for its introduction here:—

"CASE XXIII. A colored woman, twenty-five years of age, rather below the medium height, but strong and well developed, died in New York, April 7, 1877. She had had an abortion, without medical attendance, nine days before, and attempted to conceal the fact until she became ill, several days afterward, and was seen by a physician. She reported to him that she had been not more than two months advanced in pregnancy. From her appearance, as observed by her friends, the pregnancy might have been as early as this, but could not be as late as six months. From the condition of the uterus, as seen at the autopsy, it should probably be reckoned at three months. Death resulted from general peritonitis.

"The uterus was enlarged to more than five times its natural size; weighing, when stripped of all accessory parts, two hundred and seventy-four grammes, its walls being thickened in proportion. The mucous membrane of the cervix remained entire. That of the body was wanting throughout; and at the upper part of the posterior uterine wall, the former attachment of the placenta was indicated by a ragged, brownish prominence, forty to fifty millimetres in diameter and three to five millimetres in thickness.

"The situation of the corpus luteum, in the right ovary, was distinguishable externally by a roundish, superficial cicatrix-like spot surrounded by an indistinct yellowish zone. The corpus luteum, immediately beneath, was fifteen millimetres wide, ten millimetres deep, and five millimetres thick. Its outer wall was of a clear, orange-yellow color, quite thin in its superficial portions, one millimetre thick elsewhere, but often increased by its foldings to a thickness of two millimetres. The central clot was of firm consistency, uniformly decolorized, and white for the greater part of its extent. Immediately beneath the superficial cicatrix it presented some dark bloody discoloration, apparently due to the inflammatory congestion of the ovarian integument, which was strongly marked. In the centre of the fibrinous coagulum was an oval excavation of flattened form, without any separate lining membrane. The whole corpus luteum was easily enucleated. Its volume was 0.9 cubic centimetre and its weight 1015 milligrammes.

"The left ovary, which was smaller than the right, contained nothing unusual. In each organ there were a number of Graafian follicles, from one to three millimetres in diameter, beneath the albuginea. There were none of larger size, and none prominent on the surface."

Although it would be in all fatal cases extremely desirable, and in most of such cases quite possible, to decide upon the occurrence of recent abortion by strictly post-mortem appearances, yet, fortunately, medical examiners are seldom compelled to rely entirely upon such proof. They are required by law to make "personal inquiry into the cause and manner of the death." It rarely happens that circumstantial evidence, or that obtained from a history of the case as given by trustworthy parties acquainted with the woman when living, or that derived from the general reputation of the woman, is not available for medico-legal purposes. It is obvious that in case of death following abortion, an opinion based upon medical examination should not be dependent upon any single sign, but rather upon the coexistence of several of them. While a distinct placental mark existing in a uterus considerably enlarged might in itself be sufficient indication to satisfy the examiner of the fact of recent delivery, yet if to this testimony could be superadded that arising from the existence of a well-developed corpus luteum, no further proof, it seems to me, should be required to satisfy any legal tribunal.

It only remains to allude to the evidences of abortion at a remote period. This can seldom be diagnosticated by physical signs alone. After delivery at the full time the normal process of involution is completed in about one month. Although, as we have seen, the uterus under these circumstances does not wholly return to its original condition, and can be recognized as having been pregnant, yet after an abortion in the early or middle periods the differences in this respect

would be hardly perceptible. If death followed criminal abortion after a month's time or more, in consequence of inflammation which was thereby set up, this "inflammation might or might not be attributed to this source."¹ When peritonitis is the result of violence it is, according to the authority of Woodman and Tidy, "generally more localized than when it is spontaneous in puerperal cases." The forms of inflammation which are most likely to ensue are metritis, phlebitis, pelvic peritonitis, and pelvic cellulitis. The original lesion is generally endometritis, which probably results in many cases from some injury inflicted upon the womb by the abortionist, or from want of proper care after the abortion occurred. "We have reasons for believing," says Fordyce Barker, "that puerperal metritis is frequently the primary lesion in many cases of general or local peritonitis, and in many of the suppurative inflammations of the other pelvic tissues."

The following case, which came under my observation ten years since, is an instance in point: E. B., aged twenty, unmarried, underwent two "operations" at the hands of an abortionist. No pain attended the first attempt, which was a failure. At the second, about a week after the first, she was "hurt dreadfully," as she subsequently stated. Immediately before and after each operation she walked a distance of two or three miles. Expulsion shortly followed the second manipulation. No physician was in attendance. She was said to have suffered severely, but apparently made a good recovery. At the end of a month she was removed to the residence of a near relative, some three miles distant, being conveyed in a carriage. From this time up to that of her death she underwent two transportations from place to place during cold winter weather, and is further believed to have suffered many hardships from neglect and abuse. It is known that for more than two months before the fatal event occurred there was a purulent discharge from the rectum, with emaciation, hectic, and general prostration. Death occurred four months after the abortion.

At the autopsy there was found in Douglas's pouch a purulent cavity four or five centimetres in diameter, with rigid walls formed by adhesions of the pelvic peritoneal tissues, and connected with the rectum by a fistulous opening some seven millimetres in diameter. The uterus was healthy to appearance, and being submitted to Professor J. B. S. Jackson, he could detect no positive trace of primary lesion, although there was an appearance which might have been the result of a puncture. No evidence of disease was found in other organs.

Before death the young woman made a dying statement, which was duly sworn to. The abortionist, who was a woman, was prosecuted, tried, convicted, and sentenced to eighteen months imprisonment in the house of correction. After serving seven months and twenty-four days of her sentence she was pardoned by the governor.

¹ Ogston.

RECENT PROGRESS IN THERAPEUTICS.

BY ROBERT AMORY, M. D.

*Third Report on the Action of Anæsthesia to the Scientific Grants Committee of the British Medical Association.*¹—This committee have been experimenting in regard to action of chloroform on animals, and also upon the properties of other anæsthetic agents, and have tested their results by kymographic tracings of the respiratory movements and arterial blood pressure. Ethidene dichloride ($C_2H_2Cl_2$, an isomeride of ethene dichloride, or Dutch liquid, a product from aldehyde) was administered to animals, with the report that dogs will live for a lengthened period in a state of complete anæsthesia during inhalation of this agent, whilst they will die in a short time when chloroform is used. Twenty patients were operated upon during anæsthesia produced by inhalation of this new anæsthetic. The agent was administered on a cloth with the allowance of a free supply of atmospheric air, and it took from seven to ten minutes to induce perfect anæsthesia, and its continued respiration seemed unattended with danger.

During this investigation the attention of the experimenters was directed, first, to the effects on the gases of the blood; second, to effects on the expired air; third, on the nervous phenomena, especially that of the exercise of the intellectual faculty. We copy the summary of results:—

“(1.) Both chloroform and ethidene administered to animals have a decided effect in reducing the blood pressure, while ether has no appreciable effect of this kind.

“(2.) Chloroform reduces the pressure much more rapidly and to a greater extent than ethidene.”

“(3.) Chloroform has sometimes an unexpected and apparently capricious effect on the heart's action, the pressure being reduced with great rapidity almost to *nil*, while the pulsations are greatly retarded, or even stopped. The occurrence of these sudden and unlooked-for effects on the heart's action seems to be a source of serious danger, all the more that in two instances they occurred more than a minute after chloroform had ceased to be administered, and after recovery of the blood pressure.

“(4.) Ethidene reduces the blood pressure by regular gradations, and not, so far as observed, by sudden and unexpected depressions.

“(5.) Chloroform may cause death in dogs by primarily paralyzing either the heart or the respiration. The variations in this respect seem to depend to some extent on individual peculiarities of the animals; in some the cardiac centres are more readily affected, in others the respiratory. But peculiarities in the condition of the same animal very prob-

¹ British Medical Journal, June 21, 1879.

ably have some effect in determining the vulnerability of these two centres respectively, and they may fail simultaneously.

"(6.) In most cases respiration stops before the heart's action, but there was one instance in which respiration continued when the heart had stopped, and only failed a considerable number of seconds after the heart had resumed.

"(7.) The use of artificial respiration was very effective in restoring animals in danger of dying from the influence of chloroform. In one instance its prolonged use produced recovery, even when the heart had ceased beating for a considerable time.

"(8.) Under the use of ethidene there was on no single occasion an absolute cessation either of the heart's action or of respiration, although they were sometimes very much reduced. It can therefore be said that, though not free from danger on the side of the heart and respiration, this agent is in a very high degree safer than chloroform.

"(9.) These results confirm and amplify those stated in a previous report, to the effect that ethidene does not compromise the heart as does chloroform. By the method of experimentation then employed, the effect on the blood pressure could not be determined, and altogether the results here obtained are more exact and unequivocal. Dr. Snow¹ first employed ethidene, afterwards, in 1870, Liebreich and Langenbeck in Berlin.² Sauer³ reports one case of death in a patient with organic disease of heart. In 1872 Steffen⁴ recorded twenty cases in which he used it."

Microscopical Examination of Triturated Metallic and other Hard Substances.—Dr. Wesselhœft⁵ has very honestly reported his results of microscopical research upon this subject, and as these experiments seem to have entailed much labor they are entitled to a wide publicity. After describing the method which enabled him to recognize the minute fragments, he says that in specimens from the first centesimal trituration the largest particles of wood charcoal measured one fortieth millimetre, and the smallest one twelve hundredth millimetre; from its second centesimal trituration the largest particle of wood charcoal measured one three hundredth millimetre, but there were none smaller than one twelve hundredth; from its third centesimal trituration a large number of specimens were examined before a single carbon particle could be found, and then one or two only were recognized, which measured one six hundredth millimetre and one two thousandth millimetre. Dr. Wesselhœft then triturated one ounce of wood

¹ On Chloroform, published in 1858.

² Berlin. klin. Wochenschrift, Nos. 31 and 32, 1870, page 401.

³ Deutsch Klinik, No. 44, page 398, and in 1872, page 358.

⁴ Pharm. Centralblatt, vol. xiv., page 140.

⁵ Dr. C. Wesselhœft, of Boston. Sammlung wissenschaft, Abhandlung aus d. Geb. d. Homœopathie, i., No. 3, Leipzig, 1878, and New Remedies, March, 1879.

charcoal (without the addition of sugar of milk) for forty-five minutes; examination of specimens from this trituration showed a variation in the measurements of its charcoal particles from one hundred and fiftieth millimetre to one two thousandth millimetre, and would consequently seem to prove that the admixture of sugar of milk before trituration does not assist in comminuting the fragments to a smaller size. This supposition is still more strikingly shown in the next of his reported experiments, which consisted in triturating an equal quantity of charcoal and sugar of milk for thirty hours; in this case the variation in the size of the charcoal particles was from one twenty-sixth millimetre to one seven hundredth millimetre, being therefore only half that of the trituration without the sugar of milk; and yet it is true that this may have been caused by the longer process of trituration.

Triturations with gold-leaf of the third centesimal showed that the smallest gold particles were one fiftieth millimetre, whereas a special mixture of one part of gold-leaf to four parts of milk sugar was triturated, and showed that the largest particle of gold-leaf measured one twenty-fifth millimetre, and the smallest one four hundredth millimetre. Five further triturations were prepared, but the measurements were the same as above mentioned.

Other experiments with precipitated gold, iron, silica, copper, and lead were followed with similar results, it being also remarked that the precipitated metals were capable of more minute subdivision, and that the limit of divisibility was reached in the first trituration. The trituration of mercury with milk sugar was found to contain comparatively large globules of mercury, no matter how long the trituration was continued, and on making a solution of such a trituration the metal united in larger drops. An admixture of Canada balsam and mercury, intimately stirred and mixed, subdivided the metallic particles into minute globules, varying in diameter from one three thousandth to one four thousandth millimetre.

Dr. Wesselhœft makes the statement that metallic and other hard insoluble substances cannot be subdivided by continued trituration beyond a certain limit, and that if these bodies are originally in a state of fine powder, rubbing with milk sugar does not further subdivide them. In most other cases the subdivision of particles ceases after the first trituration. The smaller the quantity of milk sugar used, the further may the comminution be carried. The author further concludes that no particles of the original substance can be present in any trituration higher than the third centesimal; hence it is impossible to make dilutions from such higher triturations.

Absorption of Drugs by the Placenta.—Porak¹ detected in the newborn infant traces of the following drugs which had been administered

¹ Archives de Toxicologie, Jour. de Thé., and Gaz. hebdomadaire, April 18, 1879.

to the mother just previous to her labor: iodide of potassium, chloroform, salicylic acid, salicylate of soda, sulphate of quinine, santonin, oil of turpentine, and nitrate of potassa. Every medicine given to the mother was found in the urine of her new-born infant. There is no evidence that the placenta is an impermeable filter. Though there is apparently no law as regards the quantity or rapidity of the absorption through the placenta, yet there appears to be no variation in the law of absorption for any one drug. Porak also has noted that drugs pass out by the urine of the new-born less rapidly than in its later life; hence he concludes that the placenta helps in elimination of drugs during foetal life.

He draws the following therapeutical conclusions: that drugs administered to the mother at the time of labor are more liable to cause injury to the foetus than when they have been given at an early period of pregnancy. In his opinion quinine injures the foetus.

*Aconite and Aconitia, their Physiological Action.*¹—From thirty-seven experiments on frogs, and a few others on rabbits, Dr. Mackenzie is led to draw deductions of which he gives the following summary:—

“(1.) Aconite and aconitia act primarily on the respiration by their influence on the respiratory centre and peripheral sensory branches of the vagus.

“(2.) They have no direct action on the heart, and only affect that viscus secondarily through the medium of the lungs.

“(3.) Their action on the nervous system consists in, firstly, irritating, and, secondly, paralyzing, the peripheral sensory nerves and posterior roots of the spinal nerves. They have no direct action on the brain or the vaso-motor nerves. They increase the irritability of the peripheral motor nerves and of the motor columns of the cord.

“(4.) They do not induce muscular paralysis, but, on the contrary, increase the irritability of voluntary muscles.

“(5.) They induce convulsions mainly through their augmenting the irritability of the anterior column of the cord, the motor nerves, and muscles.

“(6.) They firstly increase, and secondly diminish, temperature.

“(7.) Death ensues from asphyxia and respiratory collapse.”

A comparison of the reported experiments with the above summary leads one to consider that the action of aconite is only partially determined. Undoubtedly we must agree with the author that the action of aconite upon the respiratory organs can be explained in the way he suggests, but then we may suspect that there may be also some direct action upon the vaso-motor system other than that communicated by the influence of the drug on the respiratory centre and peripheral sensory branches of the vagus; for instance, Dr. Mackenzie places reli-

¹ G. Hunter Mackenzie, M. D., Practitioner, February and March, 1879.

ance upon his own experiments on frogs, and in spite of the fact that these animals have a vicarious respiration by means of the skin. In his Experiments XXXIII., XXXIV., and XXXV. it is noted that after the administration of aconitia or aconite tincture an immediate transitory capillary stasis ensued in the blood-vessels of the web of the frog's foot. While admitting that the result of Experiment XXXVI. shows that aconite does not cause as much vaso-motor paralysis as that which follows a section of the sciatic nerve, we are hardly willing to agree with the author's hypothesis that the venous stasis following the administration of aconite is *entirely* due to "pulmonary impediments, or to the embarrassed heart having been deprived of the assistance of the vaso-motor nerves in maintaining the blood current." Experiments on animals, and clinical experience also, give proof that aconite undoubtedly diminishes the amount of blood in the capillaries. Experience seems to prove that this latter effect of aconite is mainly directed to the mucous surfaces generally, and consequently would determine the blood from these capillaries to the deeper organs, thus relieving a congestion of the mucous surface, and soothing its irritability and reflex action. We cannot leave off this criticism without commenting on the fact that Dr. Mackenzie trusts rather too implicitly to the apparent variation in size of the capillaries, without testing this effect by micro-metric measurements.

*On the Influence of Aconite in controlling Pneumonia.*¹—Dr. William Dobie gives four cases of acute pneumonia seen within twenty-four hours of the beginning of the attack, in which aconite relieved the hyperexia, sleeplessness, and grave constitutional disturbance. He prescribed the (B. P.) tincture of aconite in two-minim doses every half hour for two hours, and after that in one-minim doses every four hours. In one case the temperature was reduced in five hours from 104° F. to 100° F., and the cough and dyspnoea were much relieved. The following week the patient suffered from bronchitis, but there were no signs nor symptoms of any farther pneumonia. The reporter calls to mind the important fact that the U. S. Pharmacopoeia tincture of aconite root is nearly three times the strength of that in the British, and consequently care should be exercised to specify which preparation is desired.

Mr. Spark² confirms the abortifacient power of aconite in acute inflammations from any cause, except those cases associated with a temperature below the normal or in adynamic conditions.

The value of aconite in those acute inflammations in which the general constitutional disturbance has not been succeeded by some local congestion of the mucous surfaces, or when the local inflammation has not

¹ Practitioner, June, 1879.

² Practitioner, March, 1879.

passed into the exudative form, is, we believe, well substantiated by the experience of those physicians who have this drug at hand on their first visit to an anxious patient, and we have little hesitation in assesting that the beneficial effects are greater from frequently repeated small doses rather than from the administration of one full dose.

(To be concluded.)

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

A. M. SUMNER, M. D., SECRETARY.

DECEMBER 2, 1878. *Cancer of Kidney.*—DR. O. W. DOE read the following account of a case of primary cancer of the kidney, and the report of the autopsy was made by Dr. Cutler: Miss G., forty-five years of age, single, dress-maker, always had had good health, except an attack of intermittent fever twenty-one years ago, until January, 1876, when she first consulted Dr. Doe for distress at the epigastrium and constipation. She was at that time quite anæmic, and complained of a general feeling of lassitude, but still continued at her work. Under tonic treatment she became quite strong again, but constantly complained of a tired feeling in the right lumbar region, with a dull pain extending from just above the crest of the ilium to the pubes, if she overworked. In December following, the distress at the epigastrium returned, attended by anorexia, pyrosis, constipation, headache, and a slight yellowish tinge of the conjunctivæ. The urine had at no time shown any trace of albumen. On February 19, 1877, she first noticed that her urine was bloody; it remained so most of the time for ten days, though at intervals it would be clear for a few hours. When the hæmorrhage was very free, it was attended by vomiting, but no acute pain. Three weeks later she had a second attack, coming on suddenly and lasting a week. At this time she suffered from a dull, aching pain in the right lumbar region, which would partially subside on lying down. During the interval between the hæmorrhages she continued at her work, but looked very pale and worn. On the morning of April 1st, before rising, she was seized with a severe attack of pain in the right lumbar region extending to the spine, and also into the groin. She said it seemed as if something had turned over in that region, internally. For a few days previously she had suffered from sharp, cutting pains there. On examination, a tumor was detected in the right lumbar region, extending anteriorly to within an inch of the umbilicus, and from the border of the ribs to the crest of the ilium, and posteriorly nearly to the spine. The tumor was quite movable, easily defined both anteriorly and posteriorly, of an irregular surface, and but very slightly sensitive on pressure. From this time the hæmorrhages would recur about once in three weeks, and were always preceded by increased pain in the lumbar region, which would be relieved as soon as the bleeding began. At times the pain would be very acute, like renal colic, just before the hæmorrhage, and on one occasion she found a blood clot of the ureter, an inch and a half in length, the pain ceasing immediately after its passage.

During the intervals she would regain her strength so as to be up and about her room, but she did not leave the house after May, 1877. In these attacks she suffered greatly from vomiting, consisting mostly of stringy mucus, and this came on irrespective of the time of taking food. Her bowels at times would be very loose, and then again become absolutely constipated; the latter condition being the more general one. The appetite sometimes would be ravenous, and she would retain all the nourishment taken; at other times the mildest liquids would be rejected. One peculiarity, later in the course of the disease, was that she could retain everything that she had a craving for, and even the sight of anything else would excite vomiting. Since April last she had been unable to leave her bed, and had suffered from intense pain in the tumor and extreme tenderness of the parts, frequently taking sixteen grains of opium in the twenty-four hours. At that time the tumor seemed to fill up the whole right lumbar region, and since then it has gradually diminished in size, the patient herself remarking that it was fast disappearing. Coinciding with the diminution in the size of the tumor, the urine was found to contain pus, which continued intermittingly and variable in amount, at one time nearly an ounce being present. The odor was extremely offensive, and remained so during the last two months of her illness, the attendants being frequently sickened thereby. The hæmorrhages gradually abated, so that during the last three months of her life there was only one attack. Four weeks before death she had a convulsion, lasting about ten minutes, and subsequently two other mild attacks. The pain had greatly subsided during this time, so that only an occasional injection per rectum of laudanum was required. During the last three weeks of life, when aroused, she would recognize her friends momentarily, and then lapse into a condition of wandering delirium. She died one week ago of exhaustion, emaciation being extreme. During her illness she was seen in consultation by Drs. Ellis and Beach, who agreed with him in the diagnosis of cancer of the kidney. The patient was one of ten children, the others all living and healthy. Her mother and maternal grandmother both died of "dropsy." Her father is living and in good health. Ebstein, in his treatise on cancer of the kidney, was able to find but sixty-one cases of primary cancer of the kidney reported, only six of these occurring between the ages of forty and fifty. Of fifty-six cases in which the sex was given, eighteen were females and thirty-eight were males. — DR. CUTLER reported that the body was excessively emaciated, and contained but little blood. The thoracic viscera, aside from anæmia and a slight fatty change in the heart, were not especially remarkable. The liver, spleen, stomach, and intestines partook of the general anæmia, but contained no other pathological change. The right kidney was rather irregular in its shape, though it retained its general outline. It was thirteen centimetres long, seven broad, and six thick. Its capsule when viewed externally was intact. On section the organ was found to be diseased throughout to nearly its whole extent. The general color of the section was tawny yellow interspersed with pearl gray, which latter tissue divided up the kidney into alveoli of variable size, which were distinctly appreciable to the unaided eye. Towards the pelvis of the kidney and encroaching on its cavity the disease was more recent, and gradually became more and more gray,

until at the portion nearest the ureter it was distinctly gray. In several places the growth was softened, and in one or two points near the pelvis of the kidney it had ulcerated. A microscopic examination showed the growth to be polygonal epithelium cells contained in a connective tissue stroma of tolerable density. That is carcinoma. The portion of the tumor in the cortical region was oldest, and the cells had undergone an extensive fatty degeneration, and in places they were in a cheesy state. The lower posterior portion of the kidney, about four centimetres in length and half a centimetre in breadth, was uninvaded by the disease, and presented a pretty healthy appearance. As there was no disease of a like nature in the rest of the body, it is evident that it was primary cancer of the kidney. The left kidney was *not* enlarged; it weighed about four ounces, and on section presented a healthy appearance.

DISEASES OF THE RECTUM.¹

WE have already noticed the first edition of Dr. Allingham's book. There is, however, considerable change in the subsequent editions, the author's views becoming modified by further experience and improvements in modes of treatment. He is, if not an advocate, in favor of the elastic ligature. There is no pain, he says, if it is properly applied. His method is as follows: a piece of solid india-rubber ligature, one tenth of an inch in thickness, is passed in a loop on the finger into the rectum, where it is caught by a concealed hook, an ingenious little instrument invented by the author, passed through the fistula; the double ligature is thus drawn from within outwards, is put upon the stretch, and secured by a pewter clip slipped over the ends and pressed together by strong forceps. This cuts through in an average time of six days. The operations for cancer of the rectum are perhaps as interesting as any part of the book to the surgeon. He has not had the success claimed by German surgeons, whose experience leads one to believe that cancer of this region may be more common in Germany than in England or America. Of thirteen cases operated upon by him seven presented themselves within a year with a return of the disease. Two cases are mentioned where there was no return one year and three years respectively after the operation. He is of the opinion that a certain number of cases of disease described by him as rodent or lupoid ulcer have been mistaken for cancer. These ulcers generally resemble syphilis, but are unaffected by specific or indeed any form of treatment, the patients finally dying of exhaustion. We think there are few hospital surgeons who have not "wrestled" with these hopeless forms of disease, and would gladly welcome a remedy to relieve if not cure them, for they are exceedingly painful. Dr. Allingham recommends free excision, which in the future he proposes to do more thoroughly than hitherto. From these selections it will be seen that the work is fully up to the times, and we have no hesitation in saying that it is decidedly the most practical and readable book on diseases of the rectum that we have seen.

¹ *Fistula, Hemorrhoids, Painful Ulcer, Stricture, Prolapsus, and other Diseases of the Rectum, their Diagnosis and Treatment.* By WILLIAM ALLINGHAM, F. R. C. S., Surgeon to St. Mark's Hospital for Diseases of the Rectum. Third Edition, partly rewritten. Philadelphia: Lindsay and Blakiston. 1879.

DISEASES PECULIAR TO WOMEN.¹

DR. ATTHILL is to be congratulated on the popularity which calls for the fifth edition of his little volume. It is certainly most practical in its character, it being no purpose of the author to enter into the discussion of theories which add much to the size and little to the usefulness of some works in this department of medicine. The book appears to have been carefully revised, and most of the chapter on Chronic Endometritis is rewritten.

We are sorry to see that the author clings to some of the old and, we are sure, less efficient means of examination: as, for example, making the digital examination with the patient on the side rather than on the back, and giving preference to the cylindrical speculum of Fergusson instead of Sims's retractor. With the careful directions which are given to be observed in the use of the uterine sound for the exploration of the interior of the uterus, we are surprised that the writer does not follow one step farther and advise the use of the uterine probe, which we have learned to be much more safe than, and quite as effectual as, the more unyielding sound.

It is to be regretted that the author has adhered to the plan of heading some of the chapters with terms which are symptomatic of diseases rather than with the names of the diseases themselves; and although this fact is carefully stated in the subsequent pages, yet we can but feel that it helps to fix in the mind of the student ideas quite the reverse of what the author intends to convey.

A just importance is ascribed to the use of hot water, and the proper method of taking the hot vaginal douche is fully described. With the exception of advising some of the harsher applications, as caustic potash and solid nitrate of silver, Section XVII., on Uterine Therapeutics, is remarkably good.

The work is thoroughly practical, as we have before said, and contains much knowledge useful to the general practitioner. As such it deserves hearty commendation.

ARTIFICIAL ANÆSTHESIA.²

THE rapid sale within the short period of a year of Dr. Turnbull's book is sufficient testimony to the need that existed for a practical book on this subject. The author has covered the ground, which is far more extended than one would suppose, in a satisfactory manner. We are glad to see that he is "sound" on the question of the discovery of anæsthesia, and has not been led astray by recent pretensions to that honor. His analysis of the relative dangers of ether and chloroform, and of the deaths which have occurred during the administration of these agents, is exceedingly careful and just. He has collected a ghastly list of *three hundred and seventy deaths from chloroform*, one hun-

¹ *Clinical Lectures on Diseases Peculiar to Women.* By LOWBER ATTHILL, M. D. Univ. Dublin. Philadelphia: Lindsay and Blakiston. 1879.

² *The Advantages and Accidents of Artificial Anæsthesia: A Manual of Anæsthetic Agents and their Employment in the Treatment of Disease.* By LAURENCE TURNBULL, M. D., Ph. G. Second Edition, revised and enlarged. With Twenty-Seven Illustrations. Philadelphia: Lindsay and Blakiston. 1879.

dred and sixty of which are presented in tabular form, with all important details. The various modes of administering these and other agents, as nitrous oxide gas, are fully described. There is also a chapter on Hydrate of Chloral, and a very useful and interesting one on the various Medico-Legal Aspects of Anæsthetics. The second edition has been much enlarged, and the work presents a large amount of valuable information.

OPHTHALMIC OUT-PATIENT PRACTICE.¹

SHORT cuts to knowledge are deceitful. Pocket text-books should, with few exceptions, be labeled "dangerous." It may be laid down as an almost invariable rule that the briefer the book the more care and skill should be employed in its preparation. But this rule is seldom followed.

Mr. Higgins's little book is no exception to the class to which it belongs. It has its good points, but it also has bad ones, and those to whom alone such a book could be of value are exactly those who are unable to distinguish between its merits and demerits.

We should dislike to have any one attempt to evert our own upper lid by following strictly the directions given on page 10, and by the method given on page 22 for raising the upper lid of a struggling and sensitive child a dangerous amount of pressure on the eye must often be exerted by an unskilled manipulator. The employment of fomentations of poppy heads in the early stage of catarrhal "ophthalmia," if there be much pain and congestion, with only scanty discharge (page 11), may sometimes be effective, but often will aggravate the disease. Cold applications are far better.

"In any case of purulent ophthalmia, if we find the cornea ulcerated, we must support it by the application of a good pad and bandage; by this means we may often save perforation; the bandage must, however, be frequently removed in order to apply the alum lotion, with which the pad should also be kept wetted." (Page 19.) We should object to the pad and bandage in such case *in toto*. This is "out-patient practice." Certainly, if the pad-and-bandage treatment is ever to be sanctioned, it should be so only under the constant care of the physician, not when left to the usual surroundings of the patient. There is no hint of atropine with ulcer of the cornea in purulent ophthalmia.

INFLUENCE OF POSTURE ON WOMEN.²

THE position which this book tries to establish is altogether a strained one, and we are sure that the author will find great difficulty in changing some of the customs of our people, however loudly he may cry out against them. Notably among these is the use of chairs for sitting. The man who puts himself in direct opposition to established customs is oftentimes styled fanatical, while he

¹ *Ophthalmic Out-Patient Practice*. By CHARLES HIGGINS, F. R. C. S., etc. Second Edition. Philadelphia: Lindsay and Blakiston. 1879. 12mo, pp. 116.

² *The Influence of Posture on Women in Gynecic and Obstetric Practice*. By J. H. AVELING, M. D. Philadelphia: Lindsay and Blakiston. 1879.

who endeavors so to modify them as to make them subserve the purposes for which he sees the great necessity is as often acknowledged a public benefactor. Recognizing many of the ill effects which posture has in the departments of medicine of which the volume treats, we think the author's purpose would have met with much better success had the hints been more mildly drawn and the book been much condensed. We dislike exceedingly the nomenclature used. It only tends to confuse the reader, and is certainly less definite than that ordinarily employed. Chapter III., on Hyperæmic Disorders of the Pelvic Organs produced by Posture, and Chapter IV., on The Influence of Posture upon the Functions of the Pelvic Organs, appear to us the most valuable, although even in these the subject is overdrawn. It would be well for every practitioner to read carefully the headings of the chapters and the subjects of the subdivisions, which are well arranged for this sort of perusal, and we are quite sure that the remainder will be suggested to his mind without taking the time to read it.

VAUGHAN'S CHEMICAL PHYSIOLOGY AND PATHOLOGY.¹

THIS book is devoted chiefly to the consideration of the urine, but treats briefly of the chemistry of the blood, gastric juice, and other animal fluids, as well as of the solid tissues. It is not a complete text-book, but is made up of notes upon Dr. Vaughan's lectures on these subjects, and is especially prepared for the use of his own students. It is apparently well adapted to this purpose, and doubtless proves useful to them.

THE PATHOLOGICAL SOCIETY OF PHILADELPHIA.²

THE present volume contains the report of the proceedings of this well-known society for the year 1878.

It is no longer necessary to say anything of the general arrangement of the contents of these publications, or to call attention to the abundance and frequent rarity of the material which is presented. The society gives evidence of continued activity, and the new members are worthy successors of those whose names have become prominent.

In one respect the society seems to fall short, namely, in the presentation of series of cases and the generalizations to be drawn from comprehensive papers. The archives of the society now contain so many single cases that it may be considered almost the duty of the individual member to refer to the records before calling the attention of his fellows to the specimen he may have to offer, especially when, as is so often the case, its suggestions are of far greater value than its more evident qualities. The earlier transactions of the society show that such work was often done, and the uniformity of classification preserved throughout the volumes makes the work an easy task.

¹ *Lecture Notes on Chemical Physiology and Pathology.* By VICTOR C. VAUGHAN, M. D., Ph. D., Lecturer on Medical Chemistry in the University of Michigan, etc. Second Edition, revised and enlarged. Ann Arbor. 1879.

² *Transactions of the Pathological Society of Philadelphia.* Volume Eighth. Edited by J. HENRY C. SIMES, M. D. Philadelphia: Printed for the Society by J. B. Lippincott & Co. 1879.

In the paper of Dr. Tyson on The Causal Lesions of Puerperal Eclampsia there is a striking exception to the inference from these remarks. It shows so much labor as to excite the warmest approbation, and almost calls for regret that the results should not come before a larger audience than the present inclosure is likely to reach. It is fair to infer, however, that the evidence presented and the conclusions drawn are to appear in some form in the work on the kidneys which Dr. Tyson is known to have in hand. R. H. F.

THE DEMAND FOR A NATIONAL BOARD OF HEALTH.

WHEN the General Board of Health came into existence in England in 1848, it was so far in advance of public opinion that it soon fell to the ground, and a similar fate unfortunately befell the splendid sanitary organization which Mr. Simon had built up out of its ruins. The opponents of the first state board of health in this country, too, were very numerous, and in its early days were prevented from abolishing it chiefly by the good judgment of its secretary, the lamented Dr. George Derby, supported by an enlightened public opinion. With that board so well established that it could be mixed up with paupers and lunatics, even on a supposed political necessity, only by deluding people into the belief that the combination was to benefit the cause of public health and be of no detriment to the board itself, and with twenty other boards established mainly on the same principle, we cannot agree with our distinguished correspondent, whose letter appears to-day, that the National Board of Health is a premature birth. Indeed, we have persistently urged that the country not only was ready for it, but demanded it.

If the inner history of its creation is ever told, we should expect to find something very interesting in the story of demolished air-castles and political aspirations, and its establishment on a basis much better than might have been expected. One thing is certain: that Congress never would have passed the bills bringing the board into existence, and much more giving it a half million dollars to spend, *even conditionally*, had not a strong public sentiment on the part of their constituents forced them to it. Indeed, we hold that the people in the United States are more ready to-day to support by legislation and money a national board devoted solely to the protection of the public health than the English even, among whom the start was made a quarter of a century before we took the matter in hand.

Naturally, a board organized at such short notice must be far from perfect, but a very important part of its task is to place before the next Congress a definite plan for a permanent national health organization, after having consulted with the National Academy and with the prominent sanitarians and state boards of health throughout the country. In this way it will be possible to get the best practicable results, although there is so much of the best elements in the present board that we should be willing to have it go on as it is.

No one who fairly considers the scientific investigations which have been set on foot by the board, and the great work which it has done at the South during the present summer, can for a moment question whether it has justified its

existence. The sanitary work which has been performed within the past few months in New Orleans, Memphis, and indeed through the whole Mississippi Valley, may reasonably be supposed to have prevented a wide-spread epidemic of yellow fever. To this successful result the National Board of Health has been the chief contributor, through its members in those two cities, by its medical inspectors, with money, in advice, and finally by its moral support of the few men who had to fight popular prejudice, ignorance, and supposed commercial interests in restricting the plague.

MEDICAL NOTES.

—The Basel Board of Health reports that in that city the prevalence of typhoid fever has not borne out the theory of Pettenkofer in associating it with fluctuations in the level of the ground-water. Diphtheria is treated by the board, in urgent cases, by evacuation of the dwelling and removal of the inmates, — the sick to a hospital and the well to other places. The singular coincidence of scarlet fever and measles in the same individual, with very short intervals, was observed several times.

—The report of Dr. Chamberlain, secretary of the Connecticut State Board of Health, for the month of July, indicates an increasing accuracy in the registration of vital statistics, a greater interest than ever before in local authorities to coöperate with the board, and on the whole a fair condition of the public health. The prevalence of malarial diseases in certain localities in the State, and especially its reappearance after years of absence, are explained by various causes which tend to produce partial saturation of the soil. Already the removal of obstructions to natural drainage has resulted in a diminution of the prevalence of intermittent fever and also of dysentery.

PROVIDENCE.

—A considerable number of cases of glanders having occurred of late among horses in this city, the Rhode Island State Board of Health has taken energetic measures to check the spread of the disease. Several horses found suffering from the affection have been seized and killed, though not without some opposition on the part of the owners. The board has issued a Public Health Tract entitled Glanders and Farcy, giving a detailed description of the disease, and directions for disinfecting stables where diseased horses have been kept. The sudden outbreak of the disease in this vicinity has been traced to cases existing in circus troupes which visited this city in May and June.

—The intestinal diseases of children have prevailed to a very slight extent in this city during the heated season. This is attributed in part to the geographical position of the city. The influence of sea air in the prevention and cure of diseases of this class is now universally recognized. Our prevailing winds in summer are from the south, and these winds reach us directly from the ocean without passing over any intervening land. Narragansett Bay, penetrating as it does to the very heart of the city, affords an unobstructed passage for these winds, and contributes in no small degree to the low death-

rate which this city shows. Last week only two deaths occurred from cholera infantum, which may be considered a remarkable record for a city having a hundred thousand inhabitants.

— The annual muster of the Rhode Island militia took place last week at Oakland Beach. About a thousand men were in camp for three days. Much inconvenience was experienced from the lack of pure water. The only source from which a supply could be obtained was an old well which had not been used for two years, and which had become so foul that the impurity of the water was perceptible not only to taste, but to smell and sight as well. The consequence was that in forty-eight hours ninety men were on the sick list with diarrhoea and dysentery. Fortunately no fatal cases occurred, and all recovered as soon as they returned to their homes. It is to be hoped that next year the question of water supply will be more fully considered in selecting a site for the annual encampment.

LITERARY NOTES.

— The latest number of Dr. Keen's Health Primers is entitled *The Summer and its Diseases*. It is written by Dr. James C. Wilson, of Philadelphia, and treats of sunstroke, diarrhoeal diseases, hay fever, and the maladies to which the skin is liable from heat and poisonous plants. It is prepared in the usual neat style of the preceding volume, and contains condensed and reliable information on the subjects of which it treats.

— The transactions of the Medical Society of Tennessee are chiefly noticeable for the small amount of contribution to the study of yellow fever. There is but one paper on that subject, by Dr. G. B. Thornton, of Memphis, which contains notes of pulse and temperature of about one hundred and fifty cases. We notice one case where the thermometer indicated 108° F.; the patient was a child, and recovered. As a rule, the temperatures do not appear to have had a high range. We are glad to learn that a systematic study of the disease has been set on foot in the State, and valuable and interesting results are promised for next year.

— The volume of Medical Communications of the Massachusetts Medical Society has appeared, and contains, in addition to the proceedings and annual discourse, papers by Dr. James B. Ayer, Dr. T. W. Fisher, and Dr. Charles H. Williams.

— The South Carolina Medical Association held its twenty-ninth annual session in Charleston in April last. The most noticeable paper in its present volume of Transactions is by Dr. Francis L. Parker, being a collection of notes of one hundred and thirty-two cases of stone in the bladder, presumably all that have occurred in the medical practice of the State. It is interesting to note that of these only five were treated by lithotomy. The greater portion of those cases originating in the State came from Charleston.

— The State Medical Society of Arkansas has been organized but four years. Its Transactions contain an earnest appeal by the president, Dr. Horner, in his address, for the formation of a state board of health, wherein he points out the

great loss of prosperity sustained by the State by its neglect of sanitary science. A different course "would have more than doubled the population during the past ten years." The profession has urged this subject repeatedly, but has not met with a favorable response from the state government.

THE NATIONAL BOARD OF HEALTH.

MR. EDITOR, — I have been prevented, by an accident that happened to me in February last, from attending any of the meetings of the National Board of Health until a few weeks ago.

The insinuations and severe or contemptuous criticisms occasionally indulged in by the Northern daily press against the operations and members of the board I thought were undeserved, but my want of knowledge of the "*inward workings*" of the board at Washington has checked my desire to defend it or its members. Last month I was able to attend one of its meetings. It continued three days, and I have rarely seen so much hard work done in the same length of time. From early in the forenoon till evening the board was in session. Telegrams were constantly being received and sent from and to various parts of the country relative to many matters; orders here and there were being dictated to clerks, some of whom "worked from fourteen to sixteen hours daily." Certainly, there was no lack of energy displayed. And, for one, I was fairly tired out by my three days of work, even as a simple member. The number and variety of new questions constantly coming up kept our minds always alert.

Any one who has paid attention to the progress of the sanitary education of our people must have been convinced that a national board of health was a foregone conclusion, when that education should be sufficiently advanced. Unfortunately, as I deem it for the board's reputation and efficiency, it was prematurely hurried into life by the panic caused in the public mind at the prospect of a repetition, this year, of the horrors of the last year's epidemic in our Southern States. Congress influenced by that panic hastily passed the bill creating the board. The old discussion of national and state rights hampered the members of Congress, and, as usual, when any large sums of money are likely to be expended, some unlooked-for things were done. Immense powers were, *apparently*, given to the board to regulate the transactions of one part of the country with another, and more than half a million of dollars was put, *apparently*, at its disposal, to enable it to perform its duties.

I use this qualifying expression "*apparently*" with the intention of being strictly true in the use of words. The attorney-general of the United States decided, after due consideration of the terms of the bill, that the board's rules and regulations would be all null and void, *unless adopted by the local sanitary authorities!* The board therefore is obliged virtually to say, "Here are rules which we deem essential — they are the least that ought to be required. You *may* have others, but they must include, in principle, those proposed by us, or you shall not receive a dime of the money granted us by Congress." Of course our rules have been readily adopted by all those places

threatened with fever. They have been simply ignored, I suspect, by others. Still further, not a dollar can be spent without the *close* supervision of the comptroller of the treasury. The most minute items of each account are required, and all may be rejected by the said comptroller of the treasury. For example, one of our members, after passing some time at Washington, had upon his bill a small item for washing. It was rejected! You will see from the above statement that our authority for making rules for the country is mightily cramped, and our power over the moneys granted by Congress is watched with Argus eyes by the Washington officials. In one contingency, however, the board has very great and summary power, if the president of the United States consents. It has already occurred and it may hereafter happen that for some reason, either carelessness or willfulness or inability under the laws of a State, a certain community may find itself unprotected from the incursion of contagious or infectious diseases, and then this power can be invoked. For example, Philadelphia and Baltimore and other cities near these two have been heretofore unable to defend themselves from "runners" from these cities, who, after boarding vessels infected with the pestilential diseases, have brought back the same to these various places. Neither Pennsylvania, Delaware, nor Maryland had control of the waters leading to these several localities. The Board of Health of Philadelphia, under these circumstances, appealed to the National Board of Health for defense, and the president, after hearing the facts in the case, asked the board to draw up a plan for establishing a quarantine station at a spot where the United States will have control or may by the law obtain it, and these important cities are thus defended from the hazards to which previously they have been subjected.

Some of the correspondents of the daily papers have alluded to the "uselessness" of the boards; while others name with rebuke its "reckless extravagance." I do not think that such expressions can be justly applied.

The short space of time during which the board has been in operation has prevented anything *very striking* from being manifested as the result of its work. But I think the following may be predicated of it. By its circulars and by its special agents throughout the Southwest, it has greatly assisted the people there to prepare for the threatened epidemic of yellow fever; it has urged everywhere the duty of cleanliness; where there has been poverty and the epidemic has broken out it has, with the permission of the secretary of the treasury, assisted pecuniarily the sanitary authorities. Various requisitions have been made preparatory to any threatened epidemic. Over one hundred thousand dollars have in this way been *hypothetically* promised by the treasury department; but only about twenty thousand have been actually spent, and if no epidemic of a general character should attack the Mississippi Valley, not a dollar of this only *possibly needed* money will be expended.

It has under orders, and now operating chiefly in and around Memphis and the adjacent country, sixteen inspectors under pay. It has eight more, in reserve, without pay. The story of Boston inspectorship, at the rate of eighteen dollars a day, as told by a daily paper, is simply a fabrication, originating no one knows how. By the board's means chiefly, Memphis has been surrounded by an impenetrable sanitary belt. No one can enter it save by stealth; no

one can leave it without a license from the health authorities of the place, and only after six hours of fumigation and disinfection of all of his clothing. A telegram is also sent to the city where he intends to go, and a certificate of the facts in the case given to him to present at any place at which he may stop as a refugee. No railroad car from the surrounding country can come within a radius of eighty miles. Mounted inspectors around the city guard approaches to it both day and night. The result *apparently* has been that the disease, instead of devastating a large part of the valley, has been pent up within narrow limits. Horrible enough have been its effects in that ill-fated city of Memphis. But when we hear of the filth in many of the houses, and how stolidly indifferent to the propriety of cleansing every homestead the authorities and citizens have been, wholly ignoring in fact the warning lessons of last summer, it seems but a terrible, though not unexpected punishment for the total neglect by all of the divine law of cleanliness. What can we hope of any society which will permit even one family of six or seven persons to cut a hole in the floor in one of the lower rooms of the house and then use the aperture for a water-closet and urinal into the cellar below! *A priori*, one would have anticipated the fatal result of almost any epidemic under such circumstances. Of course, the board had no control of such cases until after the epidemic burst out, and then it was too late to save the stricken family.

The board has assisted in the establishment of a camp outside of the city, and has urged all who can leave it to depart or to take refuge at the camp. Unfortunately, the ignorant negroes, having little faith in the white man, refuse very generally to leave home. At least thirty thousand persons have quitted Memphis. About ten thousand remain, the great majority of whom are negroes.

But the board has not considered that its chief duty was to Memphis or to any single place however suffering. It looks forward, and would take the place, as far as it can, of instructor of the whole people in sanitary matters. It wishes to prevent disease. It has now a scientific commission at Havana studying yellow fever at its origin. It seeks to gain a sanitary organization for the whole country, and therefore asks for the coöperation of all state and local boards of health. Only by an intimate union between the national and the state sanitary authorities can a really national sanitary organization be effected. The board claims the sympathy of all editors and others capable of influencing to good the public mind. The members ask nothing for themselves. The pay granted by Congress to gentlemen from distant parts of the country to induce them to leave their business and go to Washington is so ridiculously small that nothing but a sense of duty, which ought to animate every citizen of a republic to uphold a public work of beneficence, mingled, doubtless, with a certain not dishonorable pride in the fact of his being selected by the president to carry forward this important measure, could induce any one to consent to become a member of the National Board of Health.

The members therefore feel that they have a right to the sympathy and forbearance of all good men and women, upon the ground of their being engaged in the sacred but herculean task of teaching this nation to cleanse itself and to ward off fatal disease.

Yours very truly,

HENRY I. BOWDITCH.

SHORT COMMUNICATIONS.

THE NATURE OF THE DIPHTHERITIC POISON.

BY A. R. BECKER, BERKELEY, CAL.

DIPHTHERIA is always a subject of interest, both in itself and because it is a prominent member of the group of diseases generally, though erroneously, known as the zymotic diseases. This group can only be explained logically by the germ theory, which teaches us that these diseases can be propagated *only* by the reception into a susceptible system of the germs or contagia given off from the bodies of patients suffering from the *same* disease. But, in the first volume of Ziemssen's Cyclopædia of Medicine, Professor Oertel, of Munich, propounds a very different theory, which I propose to examine briefly.

In 1868, Oertel himself, together with Buhl and Hueter, discovered the constant presence of one or other form of bacteria — the most frequent being the spherical form, or micrococcus — in all mucous and submucous tissues affected by diphtheria; and these observations were confirmed by Von Recklinghausen, Nassiloff, Klebs, and several others. In cases which advanced to the septic, and still more to the gangrenous, condition, these bacteria were found in enormous quantities. Moreover, Oertel, in the course of his "pathological experimentation," "sought, by the infection of animals, to exhibit clearly the relation existing between the general disease and the secondary localization in the air-passages. If it is true that diphtheria is a general infectious disease, which, secondarily, makes its first local appearance upon the mucous membrane of the throat and air-passages, just as other infectious diseases produce their chief pathological changes always in certain organs, so, when diphtheria is induced in an animal by the introduction of diphtheritic poison, must the disease of necessity always localize itself secondarily upon the mucous membrane of the throat, larynx, and the air-tubes. Now, according to these experiments which I made, *diphtheria fixes itself at the point of inoculation, — the centre of infection, if we may so call the part first attacked, — and radiates from that part throughout the whole body.*"

This emphatically declares diphtheria to be, not a constitutional disease with a local lesion, but a local lesion which produces a constitutional disturbance. I do not consider it necessary to quote more fully, because the work has such a wide circulation, which is one principal reason why I deem it desirable to controvert the views therein expressed.

In his experiments he did secure a local lesion, where, too, he found bacteria; and he secured also a constitutional disturbance, which sometimes proved fatal and sometimes not. To review: he and several others found bacteria in all cases of diphtheria, which increased in numbers as the disease approached the gangrenous form; and animals inoculated with the discharge presented a local lesion, which also showed bacteria and more or less fatal constitutional disturbance. In the fatal cases bacteria were also found in the blood and internal organs.

Now bacteria have been shown by Dr. Bastian and others to be a *result of animal decomposition*. Such decomposition does go on in the mucous and submucous tissues affected by diphtheria, and more and more as the case approaches the gangrenous condition. Patients who die in this state die from *septicæmia*, and bacteria are naturally found in the blood and internal organs. And the disease which these gentlemen conveyed to the subjects of their experiments was *not* diphtheria at all, but *septicæmia*. And so their conclusion, that diphtheria is a local lesion producing a constitutional disturbance, falls to the ground.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM SEPTEMBER 5, 1879, TO SEPTEMBER 12, 1879.

JANEWAY, J. H., major and surgeon. Assigned to duty as post surgeon Fort Columbus, New York harbor, and attending surgeon head-quarters Military Division of the Atlantic. S. O. 58, Mil. Div. of the Atlantic, September 5, 1879.

SMART, CHARLES, captain and assistant surgeon. Relieved from duty in the Department of the East, and to report for temporary duty to the president of the National Board of Health, Washington, D. C., for chemical and microscopical work. S. O. 204, C. S. A. G. O., September 4, 1879.

VICKERY, R. S., captain and assistant surgeon. By direction of the secretary of war, the operation of so much of Par. 3, S. O. 195, A. G. O., August 25, 1879, as relates to this officer, is suspended until October 4, 1879. S. O. 208, C. S. A. G. O., September 9, 1879.

STEINMETZ, W. R., captain and assistant surgeon, having been found by an army retiring board incapacitated for active service, is by direction of the secretary of war granted leave of absence until further orders, on account of disability. S. O. 209, C. S. A. G. O., September 10, 1879.

TURRILL, H. S., lieutenant and assistant surgeon. Assigned to temporary duty as assistant to the attending surgeon, head-quarters Military Division of the Atlantic, and to the post surgeon, Fort Columbus, New York harbor. S. O., 58, Military Division of the Atlantic, September 5, 1879.

BAMSTER, J. M., lieutenant and assistant surgeon. Relieved from duty at Fort Leavenworth, Kansas, and assigned to duty at Fort Reno, Indian Territory. S. O. 171, Department of Missouri, September 3, 1879.

CHANGES IN THE MEDICAL CORPS OF THE NAVY FOR THE WEEK ENDING SEPTEMBER 12, 1879.

September 9th. Surgeon B. S. Mackie to the naval rendezvous, Philadelphia, Pa.

September 10th. Medical Inspector J. C. Spear to the U. S. S. Trenton and as fleet surgeon of the European Station, per steamer of September 20th.

September 10th. Medical Inspector D. Bloodgood to be detached as fleet surgeon European Station on reporting of relief, and return home.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 6, 1879.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Annual Death-Rate per 1000 during the Week.	Percentage of total Deaths from					
				The Principal "Zymotic" Diseases.	Diarrhoeal Diseases.	Diphtheria and Croup.	Pneumonia.	Typhoid Fever.	
New York.....	1,085,000	580	25.54	29.24	20.88	3.02	4.84	0.94	
Philadelphia.....	901,380	345	19.99	22.03	12.22	3.19	1.74	2.90	
Brooklyn.....	664,400	225	20.80	29.33	20.89	4.89	3.50	0.44	
Chicago.....	—	159	—	89.61	14.49	10.06	1.82	5.08	
St. Louis.....	—	111	—	30.63	18.92	2.72	2.72	0.91	
Baltimore.....	365,000	145	20.71	28.96	9.65	5.52	4.12	5.52	
Boston.....	360,000	120	17.38	39.17	26.67	5.00	3.33	2.50	
Cincinnati.....	280,000	106	26.56	18.87	10.38	0.94	3.76	1.86	
New Orleans.....	210,000	96	23.80	12.50	3.13	1.04	2.08	—	
Cleveland.....	160,000	54	17.60	48.15	29.63	5.93	5.93	5.93	
District of Columbia.....	170,000	66	20.20	28.79	18.18	1.52	6.06	3.03	
Pittsburgh.....	—	—	—	—	—	—	—	—	
Buffalo.....	—	—	—	—	—	—	—	—	
Milwaukee.....	127,000	44	18.07	25.00	13.64	6.82	4.55	2.27	
Providence.....	101,500	32	16.46	25.00	12.50	1.70	1.70	1.70	
New Haven.....	60,000	17	14.52	6.89	5.89	—	—	—	
Charleston.....	57,000	17	15.30	23.53	23.53	—	—	—	
Nashville.....	27,000	9	17.40	22.22	22.22	—	—	—	
Lowell.....	53,300	11	10.76	9.09	9.09	—	—	—	
Worcester.....	52,500	25	24.83	12.00	—	4.00	—	4.00	
Cambridge.....	50,000	19	23.74	26.31	21.05	—	—	—	
Fall River.....	48,500	—	—	—	—	—	—	—	
Lawrence.....	38,200	15	20.48	26.67	13.33	13.33	—	—	
Lynn.....	34,000	14	21.49	21.43	7.14	—	—	7.14	
Springfield.....	31,500	11	13.21	45.45	18.18	9.09	—	9.09	
New Bedford.....	27,000	19	36.69	42.11	81.58	5.26	—	5.26	
Salem.....	26,400	12	22.70	16.67	8.33	—	—	—	
Somerville.....	23,350	10	22.33	40.00	80.00	10.00	—	—	
Chelsea.....	20,800	6	15.04	33.33	16.67	16.67	—	—	
Taunton.....	20,200	3	7.74	—	—	—	—	—	
Holyoke.....	18,200	8	22.92	12.50	12.50	—	—	—	
Gloucester.....	17,100	6	18.29	50.00	—	—	—	—	
Newton.....	17,100	7	21.84	28.57	14.28	14.28	—	—	
Haverhill.....	16,300	8	27.26	50.00	50.00	—	—	—	
Newburyport.....	13,500	6	23.17	33.33	16.67	—	—	16.67	
Pittsfield.....	12,650	—	—	—	—	—	—	—	
Fitchburg.....	12,500	4	16.68	—	—	—	—	—	
Milford.....	9,800	1	6.32	—	—	—	—	—	

Two thousand two hundred and sixty-one deaths were reported: principal "zymotic" diseases 681, diarrhoeal diseases 373, consumption 303, diphtheria and croup 89, pneumonia 68, typhoid fever 50, scarlet fever 40, bronchitis 39, whooping-cough 35, malarial fevers 28, cerebro-spinal meningitis 13, erysipelas six, yellow fever (New Orleans) three, measles two, small-pox none. From *scarlet fever*, Chicago eight, Baltimore seven, New York six, Philadelphia five, Boston four, Cincinnati and Cleveland three, Brooklyn two, Providence and Gloucester one. *Whooping-cough*, New York 10, Brooklyn five, Chicago four, Philadelphia and Cincinnati three, Cleveland two, St. Louis, Boston, District of Columbia, Milwaukee, Providence, Springfield, Salem, and Gloucester one. The reduction in the mortality from diphtheria and croup, diarrhoeal diseases, and scarlet fever is considerable. Whooping-cough and bronchitis were more fatal. In Norfolk, during August, diarrhoeal diseases and malarial fevers were prevalent.

The meteorological record for the week in Boston was as follows:—

Date.	Barom-eter.	Thermom-eter.		Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.		
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in Inches.
Aug. 31	29.94	68	81	58	71	36	67	58	W	NW	W	11	10	6	C	C	C	—	—
Sept. 1	29.93	74	89	61	74	52	88	71	W	SW	SW	2	4	8	H	H	H	—	—
" 2	29.97	76	88	67	85	56	78	73	SW	SW	SW	14	15	6	H	H	R	.66	.02
" 3	30.00	66	75	62	90	78	100	89	W	E	E	1	7	4	O	H	O	—	—
" 4	29.83	62	65	61	100	100	97	99	E	E	NW	18	5	9	R	R	O	15.1	.81
" 5	29.98	63	75	57	46	46	71	71	W	NW	W	4	18	4	O	F	C	—	—
" 6	30.10	61	75	52	40	40	76	64	NW	W	S	4	5	6	C	C	C	—	—
Week.	29.964	67	86	58				75		W		1329 miles.						15.8	.83

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

There were 132 cases and 48 deaths from yellow fever during the week ending September 6th in Memphis; two cases in New Orleans, five at Morgan City, and one death at Buntyn station.

For the week ending August 16th, in 149 German cities, with an estimated population of 7,523,495, the death-rate was 27.2 against 28.4 of the previous week, with an increase of diphtheria and diarrhoea. Three thousand nine hundred and thirty deaths were reported: diarrhoeal diseases 901, consumption 443, lung diseases 224, diphtheria and croup 102, scarlet fever 53, typhoid fever 44, whooping-cough 37, measles 28, puerperal fever 16, small-pox one (Dantzic). The death-rates ranged from 16.7 in Bremen to 41.4 in Chemnitz; Munich 28.3; Dresden 22.7; Berlin 32.0; Leipsic 24.3; Hamburg 25.1; Hanover 22.8; Cologne 24.9; Frankfurt 24.3.

For the week ending August 23d, in the 20 English cities and towns, with a population estimated at 7,383,999, the death-rate was 18.1. Two thousand five hundred and ninety deaths were reported: diarrhoea 258, lung diseases 165, scarlet fever 112, whooping-cough 64, measles 63, fever 34, diphtheria 13, small-pox (London) four. The death-rates ranged from 13.1 in Portsmouth to 20.5 in Salford; London 19.1; Bristol 15.4; Birmingham 14.1; Liverpool 19.7; Manchester 17.6. In 28 Belgian cities and towns of 10,000 population and over, the death-rate was 20.9; in 24 of less size, 21.3,—diarrhoea being very prevalent, measles, typhoid fever, small-pox, and whooping cough moderately so, and scarlet fever and diphtheria very rare. In the 20 prominent Swiss towns, whooping-cough was quite prevalent, measles less so, and the other zymotic diseases showed a very low mortality.

BOOKS AND PAMPHLETS RECEIVED.—A Guide to Surgical Diagnosis. By Christopher Heath, F. R. C. S. Philadelphia: Lindsay and Blakiston. 1879. (A. Williams & Co.)